

Mineral Industry Surveys

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SILICON IN DECEMBER 1999

In **December**, domestic shipments of silicon ferroalloys plus metal, excluding silvery pig iron, were estimated to have increased by about 6% compared with those for the prior month, according to the U.S. Geological Survey. Overall production was estimated to have decreased marginally. Total producer stocks that were estimated to have decreased slightly still were the second highest of the year.

The preliminary data for all of 1999 listed in this report again indicated decreases of less than 2% for both overall shipments and production in comparison with the corresponding quantities for the

prior year. Yearend producer stocks are estimated to have increased again, in 1999 by about 11%.

November trade data are included in this report. Trade data for December were unavailable at the time of publication and will be included in a subsequent report.

Published prices for silicon-based commodities are listed below (**Source: Platt's Metals Week**). Ferrosilicon prices are based on the contained weight of silicon. All prices are posted in cents per pound.

Dealer Import Prices

	<u>50% Ferrosilicon</u>	<u>75% Ferrosilicon</u>	<u>Silicon Metal</u>
December 3	43.0-47.0	36.0-39.0	51.0-52.0
December 10	43.0-47.0	36.0-38.0	51.0-52.0
December 17	43.0-47.0	35.0-37.0	51.0-52.0
December 28	43.0-47.0	34.0-37.0	52.0-53.0

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL 1/ 2/ 3/

(Metric tons)

Material	Gross production 4/		Net shipments		Stocks December 31, 1999
	December 1999	Year to date	December 1999	Year to date	
Ferrosilicon:					
25%-55% silicon 5/	16,300	252,000	15,800	177,000	46,800
56%-95% silicon	15,600	145,000	11,300	139,000	30,400
Silicon metal:					
Excludes semiconductor grades	18,100	195,000	17,400	192,000	9,010

1/ Data are rounded to three significant digits.

2/ Includes U.S. Geological Survey estimates.

3/ Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

4/ Ferrosilicon production includes material consumed in the production of miscellaneous silicon alloys.

5/ Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN NOVEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Brazil	--	--	--	2	2	\$4,130
Canada	361	216	\$245,000	4,780	2,870	3,040,000
Costa Rica	--	--	--	3	2	2,810
Dominican Republic	--	--	--	19	11	21,900
Japan	--	--	--	5	3	3,880
Korea, Republic of	156	94	125,000	2,170	1,300	1,850,000
Malaysia	--	--	--	5	4	5,880
Mexico	94	57	110,000	2,590	1,630	2,770,000
Taiwan	--	--	--	44	26	35,100
United Kingdom	--	--	--	15	9	28,800
Other (2 countries)	3	2	7,320	3	2	7,320
Total	614	369	488,000	9,640	5,860	7,760,000
Other ferrosilicon:						
Belgium	--	--	--	2,020	1,010	2,190,000
Canada	483	242	327,000	5,880	2,940	4,040,000
China	78	39	61,900	964	483	809,000
Germany	--	--	--	491	248	526,000
India	559	279	532,000	5,170	2,580	4,430,000
Japan	1,020	510	823,000	10,700	5,320	9,940,000
Korea, Republic of	--	--	--	1,850	927	1,460,000
Mexico	127	64	139,000	1,230	615	1,470,000
Taiwan	60	30	47,800	698	349	551,000
United Kingdom	375	187	366,000	3,590	1,800	2,770,000
Other (14 countries)	30	15	23,500	969	484	830,000
Total	2,730	1,370	2,320,000	33,500	16,800	29,000,000
Total ferrosilicon	3,350	1,740	2,810,000	43,200	22,600	36,800,000
Metal:						
More than 99.99 % silicon:						
China	7	XX	212,000	136	XX	4,890,000
Czech Republic	18	XX	480,000	61	XX	2,400,000
France	11	XX	185,000	52	XX	1,100,000
Germany	3	XX	228,000	25	XX	1,920,000
Japan	264	XX	13,300,000	2,250	XX	129,000,000
Korea, Republic of	32	XX	596,000	555	XX	15,000,000
Malaysia	17	XX	3,570,000	136	XX	28,800,000
Poland	--	XX	--	26	XX	1,250,000
Taiwan	10	XX	466,000	176	XX	9,020,000
United Kingdom	3	XX	618,000	38	XX	8,700,000
Other (41 countries)	29	XX	1,580,000	138	XX	8,080,000
Total	394	394 e/	21,200,000	3,590	3,590 e/	211,000,000

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN NOVEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal--Continued:						
99.00% - 99.99% silicon:						
Belgium	--	--	--	6	6	\$8,290
Brazil	--	--	--	44	44	62,000
France	--	--	--	4	4	5,500
Germany	--	--	--	5	5	6,970
Japan	--	--	--	144	143	210,000
Liechtenstein	3	3	\$9,900	3	3	9,900
Mexico	--	--	--	17	17	25,100
Philippines	4	4	5,270	4	4	5,270
Spain	--	--	--	7	7	9,300
United Kingdom	--	--	--	3	3	3,960
Other (6 countries)	2	2	2,880	10	10	25,000
Total	9	9	18,000	247	244	371,000
Other silicon:						
Argentina	--	--	--	74	72	98,200
Belgium	--	--	--	45	44	73,700
Canada	815	792	824,000	8,750	8,500	8,780,000
China	--	--	--	132	128	178,000
Germany	247	239	326,000	1,050	1,020	1,420,000
Japan	1	1	3,160	2,840	2,760	5,930,000
Korea, Republic of	--	--	--	237	230	378,000
Mexico	176	171	355,000	17,600	17,100	24,000,000
Taiwan	83	80	109,000	1,060	1,030	1,400,000
United Kingdom	10	10	13,700	51	50	67,900
Other (29 countries)	13	13	22,700	289	281	797,000
Total	1,340	1,310	1,650,000	32,100	31,200	43,100,000
Total silicon metal	1,750	1,710	22,900,000	35,900	35,000	254,000,000

e/ Estimated. XX Not applicable.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN NOVEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55% - 80% silicon, over 3% Ca:						
Argentina	40	24	\$37,200	220	133	\$247,000
Brazil	--	--	--	28	18	32,100
France	--	--	--	72	31	116,000
Germany	--	--	--	17	6	28,800
Macedonia	--	--	--	13,200	10,000	7,280,000
United Kingdom	--	--	--	10	7	75,900
Total	40	24	37,200	13,600	10,200	7,780,000
55% - 80% silicon, Other:						
Brazil	1,060	792	464,000	9,660	7,210	5,290,000
Canada	1,130	860	802,000	7,720	5,840	5,690,000
Egypt	--	--	--	2,610	1,900	1,430,000
France	300	200	616,000	2,070	1,360	4,310,000
Iceland	--	--	--	11,600	8,700	6,200,000
Kazakhstan	10,000	6,840	4,730,000	14,100	9,880	6,640,000
Macedonia	768	597	422,000	1,200	900	593,000
Norway	10,300	7,770	6,120,000	86,200	65,400	54,000,000
Poland	--	--	--	4,960	3,750	3,000,000
South Africa	--	--	--	30,300	23,000	17,300,000
Other (6 countries)	25	18	111,000	1,590	1,160	3,090,000
Total	23,600	17,100	13,300,000	172,000	129,000	108,000,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN NOVEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Ferrosilicon--Continued:						
80% - 90% silicon:						
Canada	--	--	--	73	65	\$5,830
More than 90% silicon:						
Canada	--	--	--	17	17	24,700
Magnesium ferrosilicon:						
Argentina	120	54	\$92,300	924	436	828,000
Brazil	729	329	507,000	4,600	2,130	3,380,000
Canada	--	--	--	327	156	303,000
China	800	379	570,000	3,560	1,700	2,730,000
Japan	3	2	6,540	115	58	269,000
Norway	775	360	680,000	12,400	5,730	12,000,000
Total	2,430	1,120	1,860,000	22,000	10,200	19,500,000
Other ferrosilicon:						
Brazil	--	--	--	8	4	13,300
Canada	1,100	373	944,000	8,900	3,050	7,250,000
France	--	--	--	81	41	191,000
Germany	--	--	--	80	12	102,000
Italy	--	--	--	294	27	104,000
Japan	17	17	28,600	64	36	121,000
Norway	40	6	47,400	342	114	430,000
South Africa	10	1	10,500	175	26	157,000
Total	1,160	397	1,030,000	9,950	3,300	8,370,000
Total ferrosilicon	27,200	18,600	16,200,000	217,000	153,000	143,000,000
Metal:						
More than 99.99% silicon:						
Canada	--	XX	--	3	XX	61,900
China	--	XX	--	1	XX	2,420
Denmark	(4/)	XX	19,800	2	XX	109,000
Germany	44	XX	4,750,000	364	XX	45,400,000
Italy	67	XX	2,370,000	530	XX	23,200,000
Japan	21	XX	795,000	415	XX	14,000,000
Korea, Republic of	5	XX	115,000	92	XX	2,410,000
Sweden	3	XX	12,600	3	XX	64,700
Taiwan	2	XX	2,610	30	XX	366,000
United Kingdom	--	XX	--	12	XX	1,180,000
Other (8 countries)	(4/)	XX	8,530	2	XX	134,000
Total	143	143 e/	8,080,000	1,450	1,450 e/	87,000,000
99.00% - 99.99% silicon:						
Australia	343	341	413,000	1,670	1,660	2,220,000
Brazil	760	754	815,000	10,200	9,600	12,200,000
Canada	680	675	1,030,000	12,800	12,700	19,400,000
China	--	--	--	617	556	566,000
France	--	--	--	2,190	2,170	3,150,000
Norway	920 5/	918 5/	1,450,000 5/	5,980	5,990	8,880,000
Russia	2,230	2,200	2,260,000	8,270	8,130	8,760,000
Saudi Arabia	201	199	194,000	1,870	1,850	1,800,000
South Africa	800	794	814,000	17,200	17,000	21,200,000
Spain	--	--	--	582	577	606,000
Other (6 countries)	108 5/	60 5/	114,000 5/	651	556	1,000,000
Total	6,040	5,940	7,100,000	62,000	60,800	79,800,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN NOVEMBER 1999 1/ 2/

(Metric tons)

Country	Gross weight	Contained weight	Value	Year to date p/ 3/		
				Gross weight	Contained weight	Value
Metal--Continued:						
Other silicon:						
Brazil	--	--	--	1,480	978	\$1,820,000
Canada	667	654	\$944,000	8,850	8,690	12,600,000
China	241	238	205,000	2,080	2,070	1,780,000
Korea, Republic of	60	59	52,200	399	388	364,000
Norway	--	--	--	387	375	394,000
Russia	596	584	541,000	13,400	13,100	14,100,000
Saudi Arabia	700	687	672,000	10,000	9,800	10,100,000
South Africa	--	--	--	4,270	4,170	4,270,000
Spain	--	--	--	282	278	357,000
United Kingdom	38	37	51,800	414	401	555,000
Other (7 countries)	20	20	25,600	595	513	712,000
Total	2,320	2,280	2,490,000	42,200	40,700	47,100,000
Total silicon metal	8,500	8,370	17,700,000	106,000	103,000	214,000,000

e/ Estimated. p/ Preliminary. XX Not applicable.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ May include revisions to previous months' data.

4/ Less than 1/2 unit.

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.